Project Title: EXTERNAL PIPELINE COATING INTEGRITY (one year extension)		
DOT PHMSA Advances Coatings R&D Contract # DTPH56-06-T-000022		
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3rd Quarterly Status Report

Summary

Good progresses have been made in this quarter. The key accomplishments are listed below:

(1) Identified the thermal cracking mechanism for 3LPP pipeline coatings.

(2) Established a test method for evaluating high temperature (95°C and 110°C) cathodic disbondment performance.

(3) Developed a new caliper bending test method to evaluate thermo-oxidative and hygrothermal stability of high T_g FBE free films.

(4) Explored a new notched coating adhesion method to measure interfacial fracture toughness of high T_g FBE. We found that both hot water immersion and thermo-oxidative degradation of FBE can degrade FBE-steel interfacial adhesion.

(5) Made good progresses on the use of the scratch test method to measure adhesive strength of high T_g FBE in both dry and wet conditions.

The above mentioned accomplishments have made significant impacts to the pipeline coating industries. However, additional work is still needed to complete the test methodology developments of the scratch adhesive strength, the notched coating adhesive fracture toughness, and the 3LPP cracking prediction. We have requested a six-month project extension with additional $70,000 to complete the project.

The DOT project team has met on September 2 at 3M Technology Center in Austin, Texas, for a Mid-term Project Review Meeting to present the progress report.